

## CLAIMS

What is claimed is:

1. A method for allowing long term, update and edit control in a database system, the method comprising:
- providing library control functions in a database system; and
  - utilizing the library control functions via structured query language statements to ensure data integrity of opaque data types in the database system.
2. The method of claim 1 wherein providing library control functions further comprises providing a checkout function.
3. The method of claim 2 wherein providing library control functions further comprises creating a set of update and delete triggers in correspondence with the checkout function.
4. The method of claim 3 wherein providing library control functions further comprises creating a set of side control tables for each selected table that contains library-controlled columns.
5. The method of claim 4 wherein utilizing the library control functions further comprises utilizing the set of side control tables to designate a primary key based on a user identity and column name of data being accessed by a user.

1 6. The method of claim 5 further comprising utilizing the primary key as an edit control  
2 mechanism for a checked-out cell until an update occurs by the user.

1 7. The method of claim 3 wherein utilizing the library control functions further  
2 comprises utilizing the library control functions to control access to a workflow document.

1 8. The method of claim 7 wherein the workflow document further comprises a  
2 decomposed XML document.

1 9. The method of claim 8 wherein the decomposed XML document further comprises an  
2 XML workflow document received via electronic mail.

1 10. The method of claim 9 wherein the set of update and delete triggers streamline  
2 performance of each workflow step from the decomposed workflow document.

1 11. A system for allowing long term, update and edit control in a database system, the  
2 system comprising:

3 at least one computer processing device; and  
4 a database management system installed on the at least one computer processing  
5 device, the database management system supporting utilization of library control functions via  
6 structured query language statements to ensure data integrity of opaque data types in the database  
7 system.

1 12. The system of claim 11 wherein the database management system further supports  
2 utilization of library control functions that include a checkout function.

1 13. The system of claim 12 wherein the database management system further supports  
2 creation of a set of update and delete triggers in correspondence with the checkout function.

1 14. The system of claim 13 wherein the database management system further supports  
2 creation of a set of side control tables for each selected table that contains library-controlled  
columns.

1 15. The system of claim 14 wherein the database management system further supports  
2 utilizing the library control functions through utilizing the set of side control tables to designate a  
3 primary key based on a user identity and column name of data being accessed by a user.

1 16. The system of claim 15 wherein the database management system further supports  
2 utilizing the primary key as an edit control mechanism for a checked-out cell until an update  
3 occurs by the user.

1 17. The system of claim 13 wherein the database management system further supports  
2 utilizing the library control functions to control access to a workflow document.

1 18. The system of claim 17 wherein the workflow document further comprises a  
2 decomposed XML document.

1 19. The system of claim 18 wherein the decomposed XML document further comprises  
2 an XML workflow document received via electronic mail.

1 20. The system of claim 19 wherein the set of update and delete triggers streamline  
2 performance of each workflow step from the decomposed workflow document.

1 21. A computer readable medium containing program instructions for allowing long  
2 term, update and edit control in a database system, the program instructions comprising:  
3 providing library control functions in a database system; and  
4 utilizing the library control functions via structured query language statements to  
5 ensure data integrity of opaque data types in the database system.

1 22. The computer readable medium of claim 21 wherein providing library control  
2 functions further comprises providing a checkout function and creating a set of update and delete  
3 triggers in correspondence with the checkout function.

1 23. The computer readable medium of claim 22 wherein providing library control  
2 functions further comprises creating a set of side control tables for each selected table that  
3 contains library-controlled columns.

1 24. The computer readable medium of claim 23 wherein utilizing the library control  
2 functions further comprises utilizing the set of side control tables to designate a primary key  
3 based on a user identity and column name of data being accessed by a user.

1 25. The computer readable medium of claim 24 further comprising utilizing the primary  
2 key as an edit control mechanism for a checked-out cell until an update occurs by the user.

1 26. The computer readable medium of claim 22 wherein utilizing the library control  
functions further comprises utilizing the library control functions to control access to a workflow  
document.

1 27. The computer readable medium of claim 26 wherein the workflow document further  
comprises a decomposed XML document.

1 28. The computer readable medium of claim 27 wherein the decomposed XML  
2 document further comprises an XML workflow document received via electronic mail.

1 29. The computer readable medium of Claim 28 wherein the set of update and delete  
2 triggers streamline performance of each workflow step from the decomposed workflow  
3 document.